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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,138	03/15/2001	Steven Shaw	M4065.0413/P413	4637
24998	7590	05/10/2004	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP 2101 L STREET NW WASHINGTON, DC 20037-1526			NGO, CHUONG D	
			ART UNIT	PAPER NUMBER
			2124	

DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/808,138

Applicant(s)

SHAW, STEVEN

Examiner

Chuong D Ngo

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) 20-31 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6,8-11,14,16-19 and 32-34 is/are rejected.
- 7) ☒ Claim(s) 4,5,7,12,13 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2 and 4.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's election without traverse of Group I, claim 1-20 and 32-34, in Paper No. 6 is acknowledged. Claims 21-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions.
2. Further restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-19 and 32-34, drawn to a circuit for performing dot product, classified in class 708, subclass 603.
 - II. Claim 20, drawn to a floating point to integer converter, classified in class 708, subclass 204.
3. The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination (Group I) does not require the particular floating point to integer converter of the subcombinations (Group II) as claimed for patentability because claims to both the combination and subcombination are presented and assumed to be patentable. The omission of specific structures of the subcombinations in the combination is an evidence that

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the combination of Group I does not rely on the details of the specific subcombination of Group II, for patentability. In addition, the subcombination II has a separate utility for converting numbers from a floating-point format to an integer format.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as their recognized divergent subject matter, and their different classification, the restriction for examination purposes is proper.

4. During a telephone conversation with applicant's representative Mr. Thomas J. D'Amico on 05-05-2004 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-19 and 32-34 Affirmation of this election must be made by applicant in replying to this Office action. Claim 20 is also withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3,6,8-11,14,16 and 32 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by Lindholm et al (6,198,488).

Lindholm et al discloses processor for executing arithmetic operation on vertex data (see abstract) including a data path having an arithmetic pipeline (figures 5-7) being capable of performing a four component dot product (CMLU_MULT, CALU_SUM4B) or a three component of dot product (CMLU_MULT, CALU_SUM3B) as input data passed through the pipeline a single time (see Table 2 and 5). The pipeline can also be seen as subdivided into a plurality of subsections, each including a multiplier (figure 6), and one of the subsections further include a four- or two- input adder module (figure 7).

7. Claims 17-19,33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindholm et al (6,198,488).

Lindholm et al does not disclose a plurality of data paths. However, this feature is merely to duplicate parts for a multiplied effect, see St. Regis Paper Co. v. Bemis Co., Inc., 193, USPQ 8, 11 (7th Cir. 1977). Thus, it would have been obvious to a person of ordinary skill in the art to further provide processor of Lindholm et al with duplicated data paths to reduce the processing time.

8. Claims 4,5,7,12,13,15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong D Ngo whose telephone number is (703) 305-9764. The examiner can normally be reached on Tuesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (703) 309-9662. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chuong D Ngo
Primary Examiner
Art Unit 2124

05/06/2004